

AMENDMENTS TO THE CLAIMS

1-54. (canceled)

55. (previously presented) An anastomosis tool for use in connecting an end of a graft vessel to the side of a target vessel, the tool comprising a vessel penetrating member configured to penetrate the target vessel, wherein said vessel penetrating member is located outside the lumen of the graft vessel at all times, and wherein the tool is configured to penetrate the target vessel and deliver a one-piece anastomosis device to connect the graft vessel to the target vessel.

56. (previously presented) The anastomosis tool of Claim 55, wherein the anastomosis tool further comprises at least two concentric tubes configured for deploying the one-piece anastomosis device.

57. (previously presented) The anastomosis tool of Claim 55, wherein the concentric tubes are configured for movement with respect to one another to deploy the one-piece anastomosis device.

58. (previously presented) The anastomosis tool of Claim 56, wherein the vessel penetrating member is configured for positioning inside the concentric tubes.

59-76. (canceled)

77. (previously presented) A method of performing anastomosis between a graft vessel and a target vessel, each having a lumen therein, the method comprising:

providing a one-piece anastomosis device;
receiving said anastomosis device on an anastomosis device applicator having a vessel penetrating member;
connecting a graft vessel to said anastomosis device on said anastomosis device applicator, wherein said anastomosis device applicator is outside the lumen of the graft vessel;
creating an opening in the target vessel with the vessel penetrating member of the anastomosis device applicator;
advancing said anastomosis device into the penetration in the target vessel; and
deploying said anastomosis device with the anastomosis device applicator to connect the graft vessel to the target vessel.

78. (previously presented) The method of Claim 77, wherein the step of deploying said anastomosis device is performed by moving two tubes of the anastomosis device applicator with respect to one another to deploy said anastomosis device.

79. (previously presented) The method of Claim 77, wherein said anastomosis device is a one-piece anastomosis device.

80. (previously presented) The method of Claim 77, wherein during the penetrating step the vessel penetrating member is positioned inside the anastomosis device applicator.

81. (previously presented) The method of Claim 77, wherein the step of deploying connects an end of the graft vessel to a side of the target vessel.

82. (previously presented) A method of performing anastomosis between a graft vessel and a target vessel, the method comprising:

providing a one-piece anastomosis device;

receiving said anastomosis device on an anastomosis device applicator including a

first tube and a second tube substantially coaxial with the first tube;

connecting a graft vessel to said anastomosis device on the anastomosis device

applicator with an end of the graft vessel passing out a side hole of at least one of the first and second tubes; and

deploying said anastomosis device with the anastomosis device applicator to connect the graft vessel to the target vessel.

83. (previously presented) The method of Claim 82, wherein the step of deploying said anastomosis device is performed by moving the first and second tubes with respect to one another.

84. (previously presented) The method of Claim 82, wherein the step of receiving said anastomosis device on the anastomosis device applicator is performed by removably connecting a plurality of features of said anastomosis device to a plurality of connecting members at a distal end of the first tube.